

CONCERNING SOME AQUATIC AND SEMIAQUATIC HEMIPTERA FROM AUSTRALIA.

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Through the kindness of Mr. H. Hacker I have received for study some insects taken in the vicinity of Brisbane, Queensland, Australia, in December, 1932. Since the shipment contains a genus new to Australia it seems worth while to present this brief report. During the past ten years Herbert M. Hale has published a number of valuable papers dealing with the Aquatic and Semiaquatic Hemiptera of Australia. These papers should stimulate further collections and studies of the water bugs of the Australian continent and add materially to our knowledge of this interesting ecological group.

PLEIDAE.

Plea brunni Hale. Records of South Australian Museum, Vol. II, No. 3, June 30, 1923, pp. 421-422, Fig. 371.

A good series of what appears to be this species. The description and the figure fail to note however the constriction of the lateral margin of the pronotum just behind the anterior angles, a character that is marked in the specimens before me.

NOTONECTIDAE.

Enithares bergrothi Mont. Rev. Ent. Fr. XI, 1892, p. 71.

A fair series of this species.

Paranisops inconstans var. *lutea* Hale. Proc. Linn. Soc. New South Wales, XLIX, Pt. 4, 1924, pp. 463-464, pls. XLVII & XLVIII.

There are two males and four females of this interesting insect. A figure of the male genital capsule is presented on plate V, to show the long flat claspers or parameres. The capsule itself is cleft behind as in *Notonecta*, *Enithares*, *Nychia* and *Martarega*. This genus is certainly intermediate between the above group of genera which I assign to the subfamily Notonectinae and the Anisopinae which includes *Anisops*, *Buenoa* and *Paranisops*. *Paranisops* has a labrum like Notonectinae and a cleft genital capsule

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like Notonectinae yet I agree with Hale in assigning it to the Anisopinae because it possesses the claval orifice and appears to have oxyhaemoglobin cells in the abdomen. The general appearance, shape of the legs and antennae also suggest Anisopinae. Mr. Hale's types came from New South Wales and it is a pleasure to add this record from Queensland.

Anisops stali Kirkaldy. Wien. Ent. Zeit. XXIII, 1904, p. 113.

One female specimen of this larger species.

Anisops doris Kirkaldy. Wien. Ent. Zeit. XXIII, 1904, p. 112.

A series of 9 specimens. There is in addition another species which I cannot identify.

CORIXIDAE.

Sigara truncatipala (Hale). Rec. S. Australian Mus. II, No. 2, Apr. 3, 1922, pp. 314-316, Fig. 341.

A good series of this species.

***Sigara halei* n. species.**

(= *Sigara sublaevifrons* Jaczewski (not Hale). Archiv. für Hydrobiologie 1931, XXIII, pp. 507-509, Figs. 1-6.

Dr. Jaczewski figured and redescribed a male from the Zoological Museum in Hamburg which he thought must be *Sigara sublaevifrons* (Hale). However, I have studied paratypes kindly sent to me by Mr. Hale and find that Dr. Jaczewski had another species which is smaller, darker and the male of which has serrations on the curved tip of the right clasper or paramere. In Hale's *S. sublaevifrons* these serrations are lacking.

Sigara halei n. sp., is 4.8 mm. long in the male and not quite 5.4 mm. long in the female. The width of the head in the male is 1.6 mm., in the female 1.7 mm. It is thus the smallest species described from Australia. It is dark and shining. The pronotum is crossed by 6 or 7 yellow bands which are narrower than the dark ones. The hemelytra are dark; the clavus with a few oblique narrow yellow bands at basal angle, elsewhere the pale markings are slender, irregular lines; on the corium the small yellow figures are arranged faintly into longitudinal series. The membrane is also pigmented and figured. The face of the male has a broad oval depression. In *S. sublaevifrons* (Hale) this is much less marked. The notes and drawings of structure given by Dr. Jaczewski apply to this species. I am designating as types of this species the five specimens before me.

Agraptocorixa parvipuncta (Hale). Rec. S. Australian Museum II, No. 2, Apr. 3, 1922, pp. 320-321, Fig. 344.

A dozen specimens of this species.

Agraptocorixa euryonome Kirkaldy. Ann. Mag. Nat. Hist. (6), XX, 1897, p. 54.

A single female specimen.

BELOSTOMATIDAE.

Sphaerodema rusticus (Fabr.)? Syst. Ent. p. 691, n. 2 (1775).

Fourteen specimens. Whether this Australian species is the same as the one recorded for the oriental region I do not know. The genus should receive a careful revisional study.

NAUCORIDAE.

Naucoris congrex Stål.

A long series.

NEPIDAE.

Laccotrepes tristis Stål. Öfv. K. V. Ak. Förh. XI, 1854, p. 241.

One male and 2 nymphs.

Ranatra longipes Stål. Öfv. Vet. Akad. Förh. 1861, p. 203.

Four adults and four nymphs.

GERRIDAE.

Gerris euphrysona Kirk. Ent. XXXV, 1902, p. 138.

Ten specimens, all apterous.

Limnogonus skusei (Bueno). Bull. Brooklyn Ent. Soc. XXI, p. 129 (192).

(*Hydrometra australis* Skuse. Rec. Aust. Mus. II, 1893, p. 42, Pl. XI, Fig. 3.)

Four specimens, all apterous.

Gerris antigone Kirk. Ann. Soc. Ent. Belge. XLIII, 1899, p. 507.

Five specimens, all apterous.

NAEOGEIDAE (= Hebridae).

Naeogeus axillaris Horváth.

= *N. latensis* Hale.

One female specimen.

Merragata hackeri n. sp.

Size: Length including hemelytra 1.75 mm.; width at humeri .85 mm.; width of head across the eyes is to the width at humeri as 29:60.

Color: Head, thorax, hemelytral veins and sternum, brown, antennae and legs lighter. Last segment of antenna, spot behind each ocellus, connexivum and abdominal venter dark brown, nearly black. Claval area of hemelytra white, membrane smoky with some indefinite whitish spots.

Structural characteristics: Somewhat hirsute but appendages by no means as hairy as Distant's figure of *Merragata pallescens* in Fauna Brit. India—Rhynchota Vol. V, p. 133. Head with two parallel depressed longitudinal lines on vertex; anterior margin of pronotum elevated into a collar; lateral margins twice constricted, front one just behind the collar and other just before the middle; two longitudinal ridges on anterior part of pronotum, separated by a groove and bordered laterally by a deep depression; surface of posterior lobe of pronotum uneven, with faint longitudinal ridges and pitted depressions; anterior lobe of scutellum transverse and elevated; posterior lobe depressed with median longitudinal carina and tip of lobe appearing entire in museum specimens but slightly incised in cleared mount. Venation of hemelytra as shown in drawing. The antennal formula for segments as follows: 1st: 2nd: 3rd: 4th:: 9: 9: 8: 12. The last segment a little thicker than the others at its middle. The formula for the legs as follows: Front leg: femur: tibia: tarsus:: 29: 29: 10; Middle leg: 32: 28: 10; Hind leg: 38: 40: 14. The genital capsule of the male as shown in the figures on Plate V. The claspers or parameres are sturdy and bent.

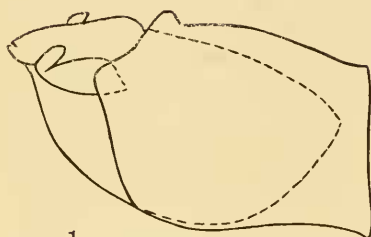
Location of types: Described from 20 specimens from Brisbane, Queensland, Australia, taken in December, 1932, by H. Hacker, in whose honor the species is named. Holotype, allotype and some paratypes in Francis Huntington Snow Entomological Museum of the University of Kansas. Paratypes also in British Museum and in South Australian Museum at Adelaide, Australia.

Comparative notes: This species is less hirsute and smaller than *M. pallescens* Dist. and the first representative of the genus from Australia.

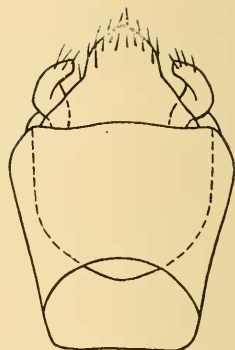
VELIIDAE.

Microvelia paramoena Hale. Arkiv. f. Zool. K. Svenska Vet. Akad. XVII, A. 1925, p. 8, fig. 5.

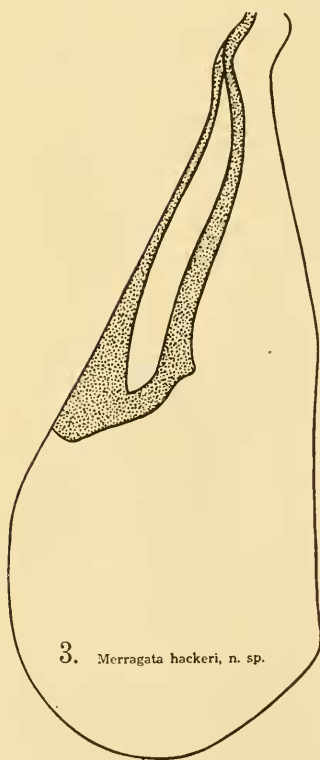
A good series both winged and apterous. The ventral side of the first genital of the male is provided with a pair of small elevated processes.



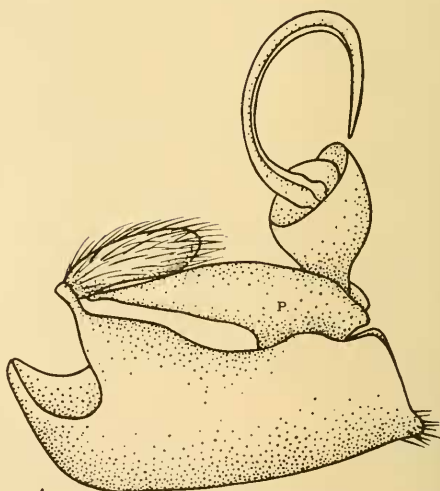
1. *Merragata hackeri*, n. sp.



2. *Merragata hackeri*, n. sp.



3. *Merragata hackeri*, n. sp.



4. *Paranisops inconstans* var. *lutea* Hale.

PLATE V.

1. Male genital capsule from right side.
2. Male genital capsule from above.
3. Left hemelytron.
4. Male genital capsule from left side. S = suranal plate; P. = paramere. Note that the genital capsule is cleft behind. The parameres are alike in shape.

**PAPILIO TROILUS ATTACKED BY POLISTES
RUBIGENOSUS WHILE MATING.**

BY HAROLD O'BYRNE, Webster Groves, Missouri.

I have already called attention to the considerable variety of insects preyed upon by the wasp *Polistes rubigenosus* Lept.¹ The following note adds another interesting record to the list.

At Ranken (between Valley Park and Eureka, in St. Louis County), Missouri, on July 29, 1933, I noticed a pair of *Papilio troilus* Linn. taking their nuptial flight. I followed closely and noted that the female was carrying the male, when a *Polistes rubigenosus* suddenly started in pursuit of them. The female, burdened with the inert male, was flying heavily, and the wasp had no difficulty in keeping close behind. When the butterflies came to rest on a low branch of a shrub, the wasp attacked at once, seizing the body of the male with its legs. A violent struggle ensued, during which the butterflies separated and the female escaped. The wasp continued to grapple with the male but was unable to attain a position favorable for stinging the prospective victim because of its rapidly fluttering wings. After a full minute, the butterfly beat its assailant off and escaped unharmed.

In the region southwest of St. Louis, these two species are among the most abundant and conspicuous representatives of their respective orders, yet I have never before, in many years of observation, seen *rubigenosus* attempt to molest this butterfly. The present observation suggests that the infrequency of such attacks is not due to disinclination on the part of the wasp so much as to the inability of the wasp to catch the butterfly because of its normally rapid and erratic flight. In this instance, the female was hampered by the weight of the pendant male. Its flight was consequently slower and more direct than usual; the wasp at once perceived this difference and started in pursuit.

¹ An attack on a cicada by *Polistes rubigenosus*. Can. Ent., lxxv, 6: 129. June, 1933.